

C 2006

10/10/06

Oct 10 2006

resource is separated by CDMA in the form of a set of orthogonal codes on a station-specific basis.

Document DE 197 23 090 A1 describes a radio communication system which features a radio access channel RACH for random access of mobile stations. This broadband channel RACH is divided up into narrowband subareas. The can be assigned to groups of mobile stations for random access.

To guarantee that data is transmitted as efficiently as possible an available frequency band can be divided up into a number of sub-carriers (multi-carrier method). The basic idea underlying multi-carrier systems is to translate the initial problem of the transmission of a broadband signal into the transmission of a quantify of narrowband signals. One of the advantages of this is that the complexity required at the receiver can be reduced. Furthermore the division of the available bandwidth into a number of narrowband sub-carriers allows a far higher granularity of data transmission as regards the distribution of the data to be transmitted on the different sub-carriers i.e., the radio resources can be distributed with far greater freedom between the data to be transmitted or between the receivers.

With OFDM (Orthogonal Frequency Division Multiplexing) almost rectangular time pulse shapes are used on the sub-carriers. The frequency spacing of the sub-carriers is selected such that in the frequency space for that frequency at which the signal of a sub-carrier is evaluated, the signals of the other sub-carriers exhibit a zero crossing. The sub-carriers are thus orthogonal to each other spectral overlapping of the sub-carriers and as a result of this a high packing density of the sub-carriers is allowed, since the orthogonality ensures that the individual sub-carriers can be distinguished from one

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another. The result is thus a high spectral efficiency. The mostly very small spacing between the sub-carriers is designed to guarantee that transmission on the individual sub-carriers is generally not frequency-selective. This simplifies signal equalization at the receiver. The data symbols transferred during a unit of time on the orthogonal sub-carriers are referred to as OFDM